

# Chun-Hsiang Chan

ASSISTANT PROFESSOR | TRANSDISCIPLINARY DATA SCIENTIST · PHD DOUBLE MS BSS

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| 🌐 Chun-Hsiang Chan | 🖥️ Coding the World

*"I always aim to overcome my limitations."*

## Education

### National Taiwan University (NTU)

Taipei, Taiwan

PH.D. IN GEOGRAPHY

Sep. 2015 - Jul. 2021

- **GPA:** 4.12/4.3 (76)
- Applied spatiotemporal data analysis to unveil the global airline alliance market with 50+ million of flight schedule data.
- Leveraged worldwide flight schedule data with complex network analysis to characterize the aviation market structure of global airline alliances.

### Shih Chien University (USC)

Taipei, Taiwan

M.S., DEPARTMENT OF FOOD SCIENCE, NUTRITION, AND NUTRACEUTICAL BIOTECHNOLOGY

Sep. 2018 - Jul. 2020

- **GPA:** 4.0/4.0 (30)
- Revealed key physicochemical parameters of semi-gelatinized high amylose maize starch and quantified for the first time the mechanisms of slow-digesting and resistant starch during sonication by machine learning (ML) techniques.

### National Taiwan University (NTU)

Taipei, Taiwan

M.S., DEPARTMENT OF GEOGRAPHY

Jan. 2013 - Jan. 2015

- **GPA:** 3.75/4.3 (31)
- Identified seismic precursors with massive electromagnetic processing (2.7 millions) and frequency domain analysis to spatiotemporally predict the epicenter (24%) and occurrence time (68%) of seismic events one week before from 2013 to 2014 (magnitude > 4).

### National Taipei University of Education (NTUE)

Taipei, Taiwan

B.SOC.SCI., DEPARTMENT OF SOCIAL AND REGIONAL DEVELOPMENT

Sep. 2008 - Jul. 2012

- **GPA:** 3.79/4.3 (174)
- Determined debris-flow critical rainfall line for disaster prevention through ML techniques (FCGA, k-means clustering, and support vector machine) with 5 years of rainfall data and 21 geological types data.

## Experience

### Master Program in Intelligent Computing and Big Data, Chung Yuan Christian University

Taoyuan, Taiwan

ASSISTANT PROFESSOR

2022 - Present

- Teaching subjects: Probability and Statistics, Big Data Fundamentals and Application, Introduction to Natural Science and Artificial Intelligence, Capstone Project, and Intro. to EECS Profession.
- Leverage graph neural network to characterize and refine the transportation structure in the urban area.
- Combine complex network analysis to characterize the spatiotemporal network structure of global heatwave events from 100+ years of data.

### Taiwan Cybersecurity Foundry Company

Taipei, Taiwan

AI CONSULTANT

2022 - Present

- Develop and deploy multiple machine learning models to automatically extract highly suspicious network security events from real-time massive flow alert data (531 millions), with an accuracy rate of 99% for each source.
- Combined with multiple time series models and federated learning to automatically detect abnormal network traffic (200 GB) for enterprise security management and meet privacy protection standards.

### Far Eastern Memorial Hospital

Taipei, Taiwan

COLLABORATOR

2022 - Present

- Leverage machine learning to identify chest compression locations (left ventricle or aortic vessel) from timely A-line waveforms to improve the quality and efficiency of CPR.

## **Institute of Sociology, Academia Sinica**

*Taipei, Taiwan*

DATA SCIENTIST

2019 - Present

- Utilized complex analysis techniques to investigate the social network formulation through quantitative and qualitative approaches.
- Conducted spatiotemporal statistical analyses (SaTScan & LISA) to reveal the preferred locations of multi-religious landscapes with 400-year cultivation data in Taipei city.
- Applied Louvain community detection and ML techniques (PCA, clustering, and hierarchical clustering) to demystify the association between pilgrimage network and religious development history.

## **School of Journalism and Communication, The Chinese University of Hong Kong**

*Hong Kong, China*

DATA SCIENTIST / A JOINT BUSINESS PLANNING ON SOCIAL MEDIA MARKETING

2019 - Present

- Collected fine-dining brand's Facebook engagement data to demystify the pandemic impact on social media behavior (2019 to 2021).
- Applied ML techniques and time-series analysis to predict the reservation trend.

## **Department of Radiology, School of Medicine, Taipei Medical University**

*Taipei, Taiwan*

COLLABORATOR | POSTDOCTORAL RESEARCH / DEPARTMENT OF RADIOLOGY, TAIPEI MUNICIPAL WANFANG

2022 - Present | 2021 - 2022

HOSPITAL, TAIPEI MEDICAL UNIVERSITY

- Characterize the prognosis of anabolic treatment (Romosozumab) through dual energy X-ray absorptiometry (DXA), quantitative computed tomography (QCT), and trabecular microarchitecture analysis.
- Evaluated the 3D trabecular microstructure parameters to reveal the relationship between areal bone mineral density (BMD) from DXA and volumetric BMD from QCT.
- Investigated the vertebral fracture assessment problems with a 2D plain-film radiograph and different 3D CT grading methods (conventional, consensus, and global search).
- Developed a 100% accuracy and rapid automated BMD and total body composition report generator to improve efficiency for the report production.

## **Department of Geography, NTU**

*Taipei, Taiwan*

RESEARCH ASSISTANT & TEACHER ASSISTANT / GEOSPATIAL COMPUTATIONAL SCIENCE LABORATORY

2019 - 2021

- Timely estimated the global exposure risk mobile app for direct and transfer air passengers to meet WHO healthcare goals and traveler needs in the COVID-19 pandemic.
- Demystified the role of transfer activities in cross-province transmission after Wuhan city lockdown by web crawling 1+ million railway schedule data during the COVID-19 pandemic.
- Utilized survival analysis and community detection for H1N1 global disease transmission with 85+ million global flight schedules.

## **Department of Geography, NTU**

*Taipei, Taiwan*

RESEARCH ASSISTANT & TEACHER ASSISTANT / REMOTE SENSING AND SPATIAL KNOWLEDGE LABORATORY

2013 - 2021

- Designed an automated low-frequency electromagnetic signal processing and pattern recognition system.
- Applied ML techniques in seismic precursor analysis and automated vertical stratum structure recognition.

## **CyberSecurity Technology Institute, Institute for Information Industry (III)**

*Taipei, Taiwan*

DATA SCIENTIST ENGINEER / ANALYTICAL INTELLIGENCE SECTION, ARTIFICIAL INTELLIGENT RESEARCH AND

2017 - 2019

DEVELOPMENT CENTER

- Identified the spatiotemporal causal relationship of air pollution between stationary emission sources and ambient air quality.
- Developed a real-time and open-source cybersecurity monitoring system with Elasticsearch, Logstash, and Kibana (ELK), which analyzed the suspicious packets.
- Implemented a generative adversarial network (GAN) model to detect malicious behaviors with a 250 GB malware dataset.

## **Department of Social and Regional Development, NTUE**

*Taipei, Taiwan*

RESEARCH ASSISTANT & TEACHER ASSISTANT / DEBRIS-FLOW DISASTER PREVENTION LABORATORY

2013 - 2016

- Leveraged social media advertising to promote crowd-sourcing debris-flow disaster platform and mobile app.
- Adopted several spatiotemporal hydrological analyses to timely characterize debris-flow disasters to informed experts and public users on a website and mobile app.

## **National Science and Technology Center for Disaster Reduction (NCDR)**

*Taipei, Taiwan*

RESEARCH INTERN / SLOPELAND DIVISION

2011 - 2011

- Conducted spatial statistical methods to reveal the hidden debris flow and landslide areas from massive high-resolution remote-sensing images.

- Synthesized and characterized - from ligands to complexes [(o-C<sub>5</sub>H<sub>4</sub>N)C(CH<sub>3</sub>)(R<sub>1</sub>)NR<sub>2</sub>]AlMe<sub>2</sub>
- Characterized organometallic precursors by NMR techniques and X-Ray crystallography showing distorted tetrahedral structures.
- Catalyzed ring-opening polymerization of  $\epsilon$ -caprolactone with the activities and the *M<sub>n</sub>* values.
- Displayed the electronic and steric properties of distinct ligand influences toward molecular weight and PDI values.

## Invited Talks

May, 2023	<b>Invited Speaker</b> , The Training Paths and Challenges of Interdisciplinary Data Scientists	NTNU, Taipei
May, 2023	<b>Invited Speaker</b> , The Future Image of Interdisciplinary Research Capabilities	CYCU, Taoyuan
Nov., 2022	<b>Invited Speaker</b> , The Importance of Spatial Analysis in Epidemic Prevention Policy	PCCU, Taipei
Oct., 2022	<b>Invited Speaker</b> , Trial & Error Building an Interdisciplinary Life - Beyond Your Limits	NTUE, Taipei
Nov., 2021	<b>Invited Speaker</b> , The Roles of Spatial Analysis During the COVID-19 Pandemic	PCCU, Taipei
Jan., 2020	<b>Invited Speaker</b> , Characterizing Major Airline Alliances: A Network Analysis	Kyoto University
Jan., 2020	<b>Invited Speaker</b> , A Social Network Approach to Detect the Characteristics of Fake News	Ill, Taipei
Feb., 2019	<b>Keynote Speaker</b> , 2019 Present Sociology under Big Data	Academia Sinica, Taipei
Sep., 2014	<b>Keynote Speaker</b> , Define an Expectation for Your University Life	NTUE, Taipei
Apr., 2014	<b>Keynote Speaker</b> , 2014 Disaster Prevention and Warning Application in APP Competition	TICC, Taipei

## Thesis

2021	<b>Ph.D. Dissertation</b> , Characterizing Major Airline Alliances: A Network Analysis. <i>Department of Geography, National Taiwan University</i>	Taipei, Taiwan
	<b>Master Thesis</b> , Effects of Ultrasonic Treatment on Physical Properties and <i>in vitro</i> Digestibility of High Amylose Maize Starch. <i>Department of Food Science, Nutrition, and Nutritional Biotechnology, Shih Chien University</i>	Taipei, Taiwan
2020	<b>Master Thesis</b> , Applying Ultra Low Frequency Remote Sensing Techniques in the Earthquake Precursor Analysis —Using Taiwan as an Example. <i>Department of Geography, National Taiwan University</i>	Taipei, Taiwan
2015	<b>Bachelor Thesis</b> , Ring-Opening Polymerization of $\epsilon$ -caprolactone Using Organoaluminum Complexes Bearing Amido-pyridine Bidentate Ligand. <i>Department of Chemistry, National Taiwan University</i>	Taipei, Taiwan
2011	<b>Bachelor Thesis</b> , Establishing Debris-Flow Cluster and Modified Critical Rainfall Line. <i>Department of Social and Regional Development, National Taipei University of Education</i>	Taipei, Taiwan

## Certifications, Skills & Interests

### LANGUAGES

**Chinese:** Native; **English:** Fluent; **Russian:** Conversant; **Japanese:** Beginning; **Spanish:** Beginning

### CERTIFICATIONS

Emergency Medical Technician: Level 1 (EMT1)

Certified Scanning Electron Microscopy Operator | Certified X-ray Diffraction Operator

Elementary School Teacher Certificate | HACCP Quality Control (Primary & Advanced)

Tour Guide of General Examination and Tour Leader of General Examination

TBSA Certificate of Business Planning Proficiency (Elementary)

National Volleyball Referee (C) | Certified lifeguard and Certified Swimming Coach (Level B & C)

### TECHNICAL SKILLS

**Computer Science:** Python, Matlab, R, C, C#, JavaScript, jQuery, jQueryUI, Android Development, HTML, MySQL, Nodejs, AngularJS, MongoDB, Elasticsearch, Spark, Facebook APIs and Twitter APIs

**Geography:** GIS (ArcGIS, QGIS, Super GIS), Spatial Statistics, Spatial Database, Complex Network Analysis, Gephi

**Physics:** Signal Processing (in time sequence and frequency) and Electromagnetic Analysis

**Food Chemistry:** Starch Science, Resistant Starch, Slowly Digestible Starch, *in vitro* Digestibility, SEM, XRD and HPSEC

**Chemistry:** Organometallic synthesis, NMR, IR, HPLC, ESI-MASS and pH meter

## Honors & Awards

### RESEARCH

2020	<b>The Second Prize</b> , 2020 Canada - Taiwan Bilateral Conference on Nutrition, Health, Benefit and Innovative Processing of Whole Grains and Pulses	<i>Taichung, Taiwan</i>
2019	<b>The Third Prize</b> , 2019 International Conference on Grain Industry Development and Annual Meeting of Taiwan Grain Industry Association (TGIA)	<i>Taichung, Taiwan</i>
2018	<b>Young Scientist Award</b> , 2nd CiC Students' Workshop: Driving Sustainable Development	<i>Tsukuba, Japan</i>
2014	<b>The First Prize</b> , The 15th Cross-Strait Symposium on Environmental Resources and Ecological Conservation	<i>Zhangjiajie, China</i>
2013	<b>The Second Prize</b> , The 14th Cross-Strait Symposium on Environmental Resources and Ecological Conservation	<i>Kunming, China</i>
2011	<b>The First Prize</b> , The 12th Cross-Strait Symposium on Environmental Resources and Ecological Conservation	<i>Nanchang, China</i>
2011	<b>Selected (Highest)</b> , Undergraduate Student Thesis Presentation in Class of 2012	<i>NTUE, Taiwan</i>

### COMPETITION

2014	<b>Third Prize</b> , 2014 Disaster Prevention and Warning Application in APP Competition	<i>Taipei, Taiwan</i>
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### SCHOLARSHIP AND GRANTS

2021	<b>Journal Paper Publication Grants for Doctoral Students at Dept. of Geography</b> ,	<i>NTU, Taiwan</i>
2020	<b>NetSci-X 2020 Travel Grants</b> , NetSci-X 2020, Waseda University	<i>Japan</i>
2020	<b>College of Science Travel Grants for International Conference</b> , College of Science	<i>NTU, Taiwan</i>
2020	<b>Honorary Membership</b> , The Phi Tau Phi Scholastic Honor Society of the Republic of China	<i>Taipei, Taiwan</i>
2020	<b>Academic Excellence Award</b> , Department of Food Science, Nutrition, and Nutraceutical Biotechnology	<i>USC, Taiwan</i>
2019-2020	<b>Grant for Ph.D. Candidates in the Humanities and Social Sciences to Write Doctoral Thesis</b> ,	<i>MOST, Taiwan</i>
2019	<b>College of Science Travel Grants for International Conference</b> , College of Science	<i>NTU, Taiwan</i>
2018-2019	<b>Presidential Award</b> , Department of Food Science, Nutrition, and Nutraceutical Biotechnology(Fall'18, Spring'19)	<i>USC, Taiwan</i>
2018	<b>Travel Grants for 2018 Tsukuba Global Science Week</b> , NTU and Tsukuba University	<i>Taiwan &amp; Japan</i>
2017-2018	<b>Graduate Student Representative of College of Science</b> , College of Science	<i>NTU, Taiwan</i>
2014	<b>Budget Supplement for Graduated Student Attending International Conference</b> ,	<i>MOST, Taiwan</i>
2010-2011	<b>Presidential Award</b> , Department of Social and Regional Development (Spring'10, Fall'11)	<i>NTUE, Taiwan</i>

## Teaching Experience

### ASSIST. PROF. | CHUNG YUAN CHRISTIAN UNIVERSITY

2022	<b>Probability &amp; Statistics 1</b> , Undergraduate Program in Applied Artificial Intelligence (Fall'22)	<i>College of EE &amp; IS</i>
2022	<b>Introduction to Natural Science and Artificial Intelligence</b> , Department of Electronic Engineering (Fall'22)	<i>College of EE &amp; IS</i>
2022	<b>Big Data Fundamentals and Application</b> , Master Program in Intelligent Computing and Big Data (Fall'22)	<i>College of EE &amp; IS</i>
2022	<b>Intro. to EECS Profession</b> , BS in Electrical Engineering and Information Science (Fall'22)	<i>College of EE &amp; IS</i>
2022	<b>Capstone Project II</b> , Undergraduate Program in Applied Artificial Intelligence (Fall'22)	<i>College of EE &amp; IS</i>
2023	<b>Probability &amp; Statistics 2</b> , Undergraduate Program in Applied Artificial Intelligence (Spr'23)	<i>College of EE &amp; IS</i>
2023	<b>Programming for Artificial Intelligence</b> , Undergraduate Program in Applied Artificial Intelligence (Spr'23)	<i>College of EE &amp; IS</i>
2023	<b>Complex Network Analysis</b> , Master Program in Intelligent Computing and Big Data (Spr'23)	<i>College of EE &amp; IS</i>
2023	<b>Capstone Project I</b> , Undergraduate Program in Applied Artificial Intelligence (Spr'23)	<i>College of EE &amp; IS</i>

### ADJUNCT ASSIST. PROF. | TAMKANG UNIVERSITY

2021	<b>Advanced C Programming and It's Applications</b> , Department of Geography (Fall'21)	<i>College of Engineering</i>
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## TA | NATIONAL TAIWAN UNIVERSITY

2018	<b>Computer Programming</b> , Department of Geography (Spr'18)	College of Science
2017-2018	<b>Russian (I)</b> , Department of Foreign Languages and Literatures (Fall'17 to Spr'18)	College of Liberal Arts
2017-2018	<b>Russian (III)</b> , Department of Foreign Languages and Literatures (Fall'17 to Spr'18)	College of Liberal Arts
2017	<b>Russian (II)</b> , Department of Foreign Languages and Literatures (Spr'17)	College of Liberal Arts
2017	<b>Russian Listening Training</b> , Department of Foreign Languages and Literatures (Spr'17)	College of Liberal Arts
2016	<b>Medical Database Systems</b> , Institute of Biomedical Engineering (Fall'16)	College of Medicine
2014	<b>Special Topics in Spatial Information</b> , Department of Geography (Spr'14)	College of Science
2014	<b>Remotely Sensed Land Monitoring</b> , Department of Geography (Spr'14)	College of Science
2013	<b>Spatial Information Research Methods</b> , Department of Geography (Fall'13)	College of Science
2013	<b>Applying Spatial Information in Tourism Recreation</b> , Department of Geography (Fall'13)	College of Science

## TA | NATIONAL TAIWAN NORMAL UNIVERSITY

2018	<b>Data Mining</b> , Department of Computer Science and Information Engineering (Fall'18)	College of Science
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## Research Projects

### MINISTRY OF SCIENCE AND TECHNOLOGY

2021-2022	<b>PostDoc</b> , Case control longitudinal study of Romosozumab vs. Denosozumab treatment for osteoporotic women in assessment of HRCT-based vertebral structural changes	Participant
2019-2021	<b>RA/ PM</b> , An Early Warning Framework for International Spread of Infectious Diseases -Assessing disease importation risk in Taiwan and East Asian regions	Participant
2019-2020	<b>PI/ Ph.D. Candidate</b> , Grant for Ph.D. Candidates in the Humanities and Social Sciences to Write Doctoral Thesis	Principal Investigator
2016-2017	<b>RA</b> , SlopeLand Disaster Risk Estimation for Mountain Region Community and Revegetation - Sediment Disaster Risk Evaluation and Adaptation Study in Isolated Community(I)	Participant
2015-2016	<b>RA</b> , Combine Crowd-Sourcing Disaster Information and Early Warning Technique for Real-time Interactive Disaster Information Platform - To Establish an Interactional Real-Time Debris-flow Disaster Information System and its extended (III)	Participant
2015-2016	<b>RA</b> , SlopeLand Disaster Prevention System for Local Community - Combine Rainfall Information for Debris-flow Potential Region and Application (I)	Participant
2014-2015	<b>RA</b> , Combine Crowd-Sourcing Disaster Information and Early Warning Technique for Real-time Interactive Disaster Information Platform - To Establish an Interactional Real-Time Debris-flow Disaster Information System and its extended (II)	Participant
2013-2014	<b>RA</b> , Combine Crowd-Sourcing Disaster Information and Early Warning Technique for Real-time Interactive Disaster Information Platform - To Establish an Interactional Real-Time Debris-flow Disaster Information System and its extended (I)	Participant

### GOOGLE & NCDR

Submitted	<b>PI</b> , Academia Sinica   Impact of Urban Socio-Physical Environment and Mobility Behavior on Osteoporosis	Principal Investigator
Submitted	<b>PI</b> , Google   Considering Infection Risk Reduction and Sustainable Mental Health in Disease Control Policy Optimization: A Multi-city Study	Principal Investigator
2023	<b>PI</b> , ANXSOAR   Combine Open-source Encrypted Network Traffic Analysis Module For Network Attack Detection	Principal Investigator
2023	<b>PI</b> , NCDR   CAP Data Mining and Data Service Module Extension for Disaster Prevention	Consultant

SCI	<b>Reviewer</b> , Atmospheric Pollution Research	Journal Article
SCI	<b>Reviewer</b> , Food Hydrocolloids	Journal Article
SCI	<b>Reviewer</b> , The Spine Journal	Journal Article
SCI	<b>Reviewer</b> , International Journal of Health Geographics	Journal Article
SCI	<b>Reviewer</b> , Plos One	Journal Article
SCI	<b>Reviewer</b> , International Journal of Environmental Research and Public Health	Journal Article
SCI	<b>Reviewer</b> , ISPRS International Journal of Geo-Information	Journal Article
SCI	<b>Reviewer</b> , Diagnostics	Journal Article
SCI	<b>Reviewer</b> , Journal of Sensors	Journal Article
EI	<b>Reviewer</b> , International Journal of Web Based Communities	Journal Article

## Selected Publications

### Peer-Reviewed Journal Papers

- [1] Wei Chien Benny Chin, **Chun-Hsiang Chan\*** (2023). Analyzing the Trends of COVID-19 and Human Activity Intensity in Malaysia. *Tropical Medicine and Infectious Disease*. 8(2), 72; <https://doi.org/10.3390/tropicalmed8020072> (**SCI IF: 3.711**; Q1 6/24 in Tropical Medicine)
- [2] **Chun-Hsiang Chan**, Wen-Chi Huang, Yi-Chien Lu, Hsing-Fen Hsiao, and Wing P. Chan (2021). BatchBMD as an Efficient and Accurate Dual-Energy X-ray Absorptiometry Report Generator. *Diagnostics*. Vol.11(12), 2403. <https://doi.org/10.3390/diagnostics11122403> (**SCI IF: 3.992**; Q2 60/172 in Medicine, General, and Internal)
- [3] **Chun-Hsiang Chan**, Tzai-Hung Wen (2021). Revisiting the Effects of High-speed Railway Transfers in the Early COVID-19 Cross-province Transmission in Mainland China. *International Journal of Environmental Research and Public Health*. Vol.18(12), 6394. <https://doi.org/10.3390/ijerph18126394> (**SSCI IF: 4.614**; Q1 45/182 in Public, Environmental & Occupational Health)
- [4] **Chun-Hsiang Chan**, Ri-Gui Wu, Yi-Yuan Shao (2021). The Effects of Ultrasonic Treatment on Physicochemical Properties and *in vitro* Digestibility of Semigelatinized High Amylose Maize Starch. *Food Hydrocolloids*. Vol.119, 106831. <https://doi.org/10.1016/j.foodhyd.2021.106831> (**SCI IF: 11.504**; Q1 3/73 in Applied Chemistry; Q1 5/144 in Food Science & Technology)
- [5] Wei-Hsian Chi, Fei-Ying Kuo, Chang-Hui Chi, Shi-Chiang Lin, **Chun-Hsiang Chan** (2021). Spatial-temporal Analysis of Pilgrimage Network of Mazu-temples in Yunlin and Chiayi County: A Study on Geographical Distribution of Pilgrimage Group. *Journal of Geographical Science*. Vol.98, 45-82. [https://doi.org/10.6161/jgs.202104\\_\(98\).0003](https://doi.org/10.6161/jgs.202104_(98).0003) (**TSSCI**)
- [6] **Chun-Hsiang Chan**, Tzu-How Chu, Jiun-Huei Protty Wu, Tzai-Hung Wen (2021). Spatially Characterizing Major Airline Alliances: A Network Analysis. *ISPRS International Journal of Geo-Information (IJGI)*. Vol.10(1), 38. <https://doi.org/10.3390/ijgi10010038> (**SCI IF: 3.099**; Q2 24/50 in Geography)
- [7] Yuan-Fang Tsai, **Chun-Hsiang Chan**, Keng-Han Lin, Wen-Ray Su, Jinn-Chyi Chen (2017, Jul). New Debris Flow Critical Rainfall Line Setting via Cluster Analysis and Support Vector Machine After the Chi-Chi Huge Earthquake. *2017 13th International Conference on Natural Computation, Fuzzy Systems and Knowledge Discovery (ICNC-FSKD)* (**EI**). 970-975.

### Peer-Reviewed Conference Papers

- [1] **Chun-Hsiang Chan**, Yi-Chien Lu, Hao-Yang Wu, Wing P. Chan (May, 2023) Vertebral Trabecular Microarchitecture in Older Health Asians. *2023 WCO-IOF-ESCEO congress*, Barcelona, Spain.
- [2] **Chun-Hsiang Chan**, Wei Chien Benny Chin, Fei-Ying Kuo (Mar, 2023) Does Recurring Pandemic Waves Have a Long-term Impact on Travel Willingness: a National Scale Investigation. *2023 Association of American Geographers' Annual Meeting*, Denver, United States.
- [3] Wing P. Chan, **Chun-Hsiang Chan**, Yi-Chien Lu, Shu-Ning Yu, Yi-Zun Lai (2023, Apr) Trends of Vertebral Height Reduction in Older Asians: Automated Vertebral Height Measurements on CT Images. *2023 ARRS Annual Meeting*, Honolulu, United States.
- [4] Tzu-Hsuan Chuang, **Chun-Hsiang Chan**, Yi-Yuan Shao (2022, Oct) Maximize Resistant Starch from Waxy Maize Starch: An Integration of Debranching and Storage Temperature. *8th International Conference on International Dietary Fibre 2022*, Belgium.
- [5] **Chun-Hsiang Chan**, Yi-Chien Lu, Hao-Yang Wu, Wing P. Chan (2022, Sep) Temporal Effects of Romosozumab on Vertebral Trabecular Quality: A Pilot Case Report. *American Society for Bone and Mineral Research 2022 Annual Meeting*, Austin, Texas, United States.
- [6] **Chun-Hsiang Chan**, Shih-Chia Wu (Jul, 2022) The impact of marketing communication strategies on online consumer-brand community engagement during COVID-19 pandemic. *29th Annual BledCom Conference*, Bled, Slovenia.
- [7] **Chun-Hsiang Chan**, Wing P. Chan (Mar, 2022) The Hollowed Trabecular Phenomenon —Demystifying the Trabecular Aging Process in Healthy Older Adults Using Multidimensional Approaches. *WCO-IOF-ESCEO Virtual Congress 2022*, Berlin, Germany.
- [8] **Chun-Hsiang Chan**, Tzai-Hung Wen (Oct, 2021). Timely exposure risk at airports app for air travelers—using the COVID-19 pandemic as an example. *2021 Asian Seminar in Regional Science —Regional Science in Post-Pandemic Era*, Taichung, Taiwan.
- [9] **Chun-Hsiang Chan**, Shih-Chia Wu (Jul, 2021) Reversible or Irreversible User Engagement Behavior Changes During COVID-19 Pandemic: a Case Study of a Top Restaurant Brand in Taiwan. *28th Annual BledCom Conference*, Bled, Slovenia.
- [10] **Chun-Hsiang Chan**, Ri-Gui Wu, Yi-Yuan Shao (Sep, 2020) Ultrasonic Treatment on Starch Granule Morphology and Physicochemical Properties of High Amylose Maize Starch. *2020 Canada - Taiwan Bilateral Conference on Nutrition, Health, Benefit and Innovative Processing of Whole Grains and Pulses*, Taichung, Taiwan.
- [11] 吳優、詹竣翔、邵貽沅 (2020 年 6 月) 探討超音波處理對半糊化之糯性玉米澱粉物性和消化性的影響。台灣農業化學會第 58 次會員大會。臺北，臺灣。
- [12] 吳優、詹竣翔、邵貽沅 (2020 年 6 月) 探討去支鏈、超音波和回凝處理對澱粉物性和消化性的影響。台灣農業化學會第 58 次會員大會。臺北，臺灣。
- [13] **Chun-Hsiang Chan**, Tzai-Hung Wen, Tzu-How Chu, Jiun-Huei Protty (Jan, 2020) Characterizing the Roles of Nodes in the Global



- Airline Alliance Network: Considering Structure Equivalence and Geographic Proximity. *NetSci-X 2020*, Tokyo, Japan.
- [14] **Chun-Hsiang Chan**, Ri-Gui Wu, Yi-Yuan Shao (Sep, 2019) Effect of Pregelatinized Temperature on the Morphology and Resistent Starch of High Amylose Corn Starch 2019 *International Conference on Grain Industry Development and Annual Meeting of Taiwan Grain Industry Association (TGIA)*, Taichung, Taiwan.
  - [15] Ri-Gui Wu, **Chun-Hsiang Chan**, Yi-Yuan Shao (Sep, 2019) Quality of Ningbo Rice Cake with Debranched Starch. 2019 *International Conference on Grain Industry Development and Annual Meeting of Taiwan Grain Industry Association (TGIA)*, Taichung, Taiwan.
  - [16] **Chun-Hsiang Chan**, Tzu-How Chu, Jehn-Yih Juang, Ching-Hao Mao, Shin-Ying Huang (Apr, 2019) Causal Relationship on Sulfur Dioxide Between Stationary Emission Source and Ambient Air Quality: a Data-driven Approach. *EGU General Assembly 2019*, Vienna, Austria.
  - [17] **Chun-Hsiang Chan**, Tzu-How Chu, Jiun-Huei Protty Wu (Apr, 2017) Statistical Analysis of Very Low Frequency Electromagnetic Signal for Earthquake Precursor Anomalies. *EGU General Assembly 2017*, Vienna, Austria.
  - [18] Yuan-Fan Tsai, **Chun-Hsiang Chan**, Yuan-Ning Chan (Jul, 2016) To Establish an Integrative Information System for Debris-Flow Disaster. *Asian Conference on Civil, Material and Environmental Sciences*, Hokkaido, Japan.
  - [19] Yuan-Fan Tsai, **Chun-Hsiang Chan**, Yi-Ting Huang, Jie-Ming Guan, Cheng-Hsin Chang (Jun, 2016) Establishing Optimal YouBike Route Planning for Cuisine in Smart Phone Application. *Hong Kong International Conference on Social Science 2016*, Hong Kong.
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